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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/199,776 | 11/25/1998 | SANG-HAE LEE | P55394 | 4064 |
| 7590 | 05/13/2005 | | EXAMINER | |
| ROBERT E BUSHNELL 1522 "K" STREET NW SUITE 300 WASHINGTON, DC 200051202 | | | TRAN, HENRY N | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2674 | |

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/199,776 | LEE, SANG-HAE | |
| | Examiner | Art Unit | |
| | HENRY N. TRAN | 2674 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 22 December 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 2,6-9 and 21-70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 2,6-9 and 21-70 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 22 December 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

This Office action is in response to the applicant's amendment received 12/22/04. The amendments to the specification, the drawings and the claims have been entered. Claims 2, 6-9, and 21-70 remain pending in this application. Applicant's remarks have been fully considered, with the results set forth as follows.

Oath/Declaration

1. A newly re-submitted oath or declaration mailed 12/22/04 has been accepted.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 8, 9, 21, 22, 25-27, 30-32, 35-38, 40, 41, 43-47, 50 and 63-70 rejected under 35 U.S.C. 103(a) as being unpatentable over Lien et al (U.S. Patent No. 5,386,567, hereinafter referred to as "Lien") in view of Hendry et al (U.S. Patent No. 5,682,529, hereinafter referred to as Hendry) and Nolan et al (U.S. Patent No. 6,049,316, hereinafter referred to as "Nolan").

4. Regarding claims 8, 9, 21, 26, 31, 36 and 43:

Lien teaches a hot-plugging method for a computer apparatus, which comprises: a computer system 1 (or system unit 22); an adapter, which is a video display unit 23 (or 24) being connected to the computer using a connection unit 9 after the computer is fully powered up and

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initialized or booted; said computer system 1 comprising a processing unit 4 (CPU 4) installed in the computer system for processing display data, detecting whether said video display unit is newly coupled to, or connected to said processing unit, or an interrupt signal, reading adapter information (read on “first data”), setting up the computer for providing a reconfigured system for transmitting data needed for displaying images on the respective display unit, a memory unit 5 connected to said processing unit 4; see Figs. 2, 7, 10 and 11; col. 2, lines 5-68; col. 3, line 1 to col. 6, line 68.

However, Lien does not expressly teach:

- (i) the use of a video card coupled to the display unit, and the processing unit determining whether the first data correspond to second data stored at the computer, storing the first data, and the transmitted data is the resolution data; and
- (ii) a digital data communication (DDC) interface connected to the processing unit for generating, transmitting an interrupt signals, and to read first data corresponding to the video display unit from said video display unit.

Hendry teaches (i) provided in a computer system; wherein, a computer having a video card 14 using a communication line 26 to couple to a display unit 12, which is newly added to the system, for determining new display information (Hendry calls “new display state descriptor”) for dynamically adjusting displayed information including resolution information in accordance with the newly added display unit, see fig. 1; col. 1, line 61 to col. 2, line 2; col. 3, line 29 to col. 4, line 35; col. 5, line 48 to col. 6, line 27; col. 7, lines 52-65.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of (i) of Hendry in the Lien’s device, hereinafter referred to as

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"Lien-Hendry", because this would provide an improved "hot plug" architecture, which is effectively and conveniently changing the display configuration and providing optimal resolution to a display device of a computer system while the computer is running without restart the computer, see Hendry, col. 2, lines 45-55.

However, Lien-Hendry does not teach the above identified (ii).

Nolan teaches (ii) provided in a computer system having a Plug-and-Play standard; wherein, a BIOS display data channel (VBE/DDC) 46 is used as a digital data communication (DDC) interface connected a display, which is a LCD 22 or a CRT 26, to the computer main processing unit of a portable PC 20 for exchanging information including extended display identification data (EDID) and command signals; see Figs. 4, 5 and 11; col. 3, lines 28 to 55; col. 6, lines 8-21; col. 7, lines 15-28; and col. 12, lines 24-26.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the DDC interface as taught by Nolan in the Lien-Hendry device because it would provide an effective and convenient interface for quickly and automatically configuring newer plug-and-play external monitors with minimal effort by the user; see Nolan, col. 4, lines 1-11.

By this rationale, claims 8, 9, 21, 26, 31, 36 and 43 are rejected.

5. Regarding claims 22, 25, 27, 30, 32, 35, 37-38, 40, 41, 44-47, 50 and 63-70:

Lien also teaches: sensing of an interrupt, col. 4, line 66 to col. 5, line 1; a first memory 13 installed in the adapter 2 and a second memory 5 installed in the computer 1, see fig. 1; the display unit is a LCD, col. 6, lines 51-60; "hot plug" display unit to the computer after the completion of the booting process, col. 4, lines 62-65, and col. 6, line 61.

Hendry also teaches: performing the display reconfiguration without restart or reboot the computer, col. 2, lines 45-55. Claims 22, 25, 27, 30, 32, 35, 37-38, 40, 41, 44-47, 50 and 63-70 are dependent upon the base claims 8, 9, 21, 26, 31, 36 and 43, and are therefore rejected on the same basis set forth in claims 8, 9, 21, 26, 31, 36 and 43, and by the reasons discussed above.

6. Claims 2, 6, 7, 23, 24, 28, 29, 33, 34, 39, 42, 48, 49 and 51-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lien et al (U.S. Patent No. 5,386,567), in view of Hendry et al (U.S. Patent No. 5,682,529) and Nolan et al (U.S. Patent No. 6,049,316), hereinafter referred to as “Lien-Hendry-Nolan”, as applied to claims 8, 9, 21, 22, 25-27, 30-32, 35-38, 40, 41, 43-47, 50 and 63-70 above, and further in view of Siefert (U.S. Patent No. 6,662,240).

7. Regarding claims 39, 42, 48 and 49, Lien-Hendry-Nolan teaches generally all except for the claimed feature: “a polling operation periodically”.

Siefert teaches a computer system capable of automatically reconfiguring the computer peripherals and accessories; wherein, a polling operation periodically checking the peripherals and accessories for reconfiguring of necessary computer components, see col. 6, lines 9-21.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the polling operation as taught by Siefert in the Lien-Hendry-Nolan system because this would conveniently and effectively track installation and removal of components to and from the system; see Siefert, col. 5, lines 14-17.

Claims 39, 42, 48 and 49 are dependent upon claims 36, 39, 43 and 47, and are therefore rejected on the same reasons set forth in claims 36, 39, 43 and 47, and by the reasons discussed above.

8. Regarding claims 2, 6, 7, 23, 24, 28, 29, 33, 34 and 51-62, which are method claims corresponding to the rejected apparatus claims 36-50, and are therefore rejected on the same basis set forth for the apparatus claims 36-50 discussed above.

Response to Arguments

9. Applicant's arguments, see pages 22-24 of the Amendment, filed 12/22/04, with respect to the objections to the drawings, have been fully considered and are persuasive. The objection of the drawings has been withdrawn. The "Replacement Sheet" for Fig. 5 has been accepted.

10. Applicant's arguments with respect to claims 2, 6-9 and 21-70 have been considered but are moot in view of the new grounds of rejection as discussed above.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

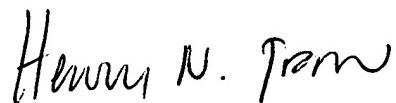
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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENRY N. TRAN whose telephone number is 571-272-7760. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, PATRICK N. EDOUARD can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HENRY N TRAN
Primary Examiner
Art Unit 2674

**FIG. 5**